

MODELS

LSC & LSC From 500,001

LSC-1 (Holiday)

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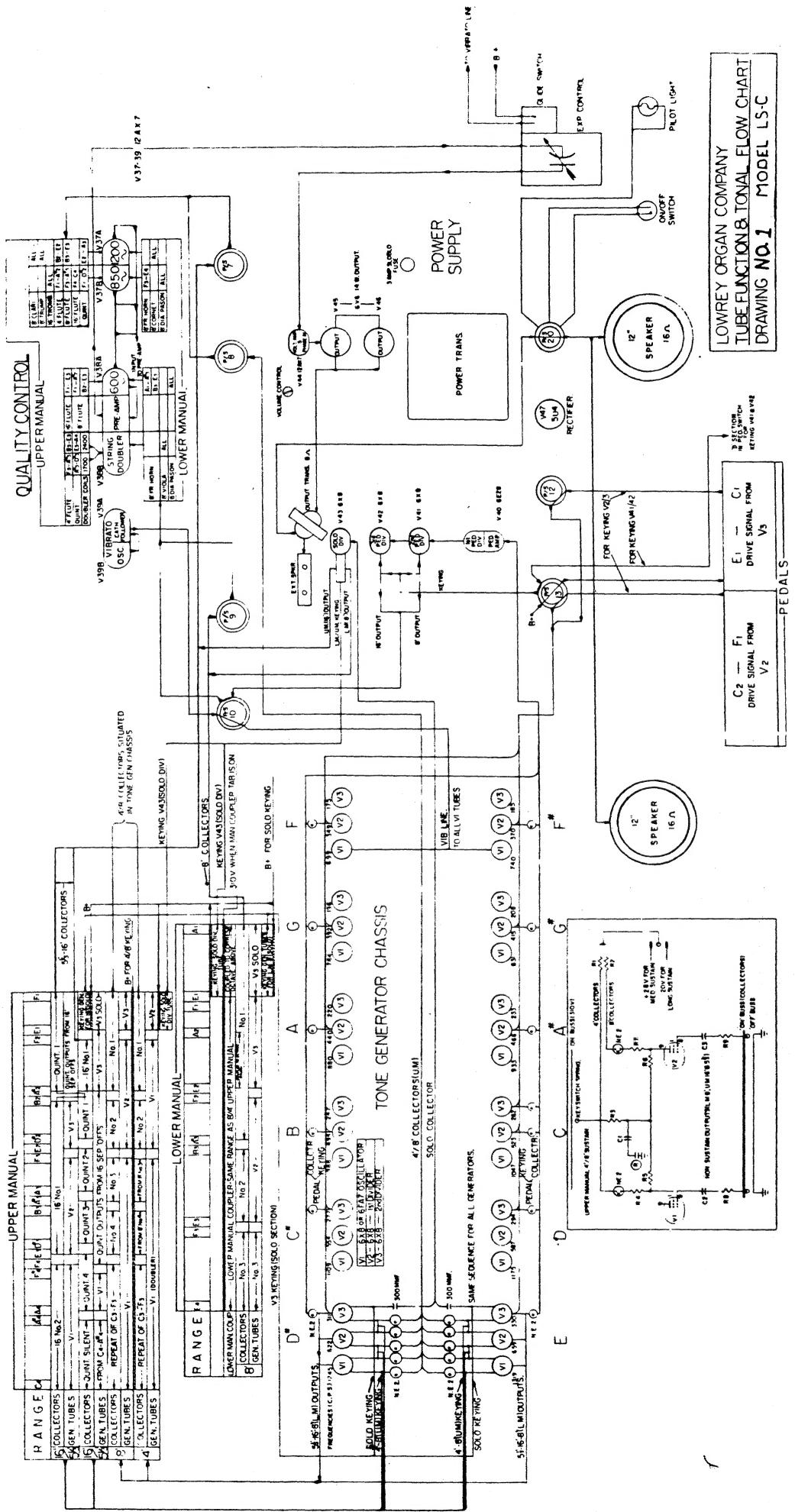
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LOWREY ELECTRONICS SERVICE DEPT.

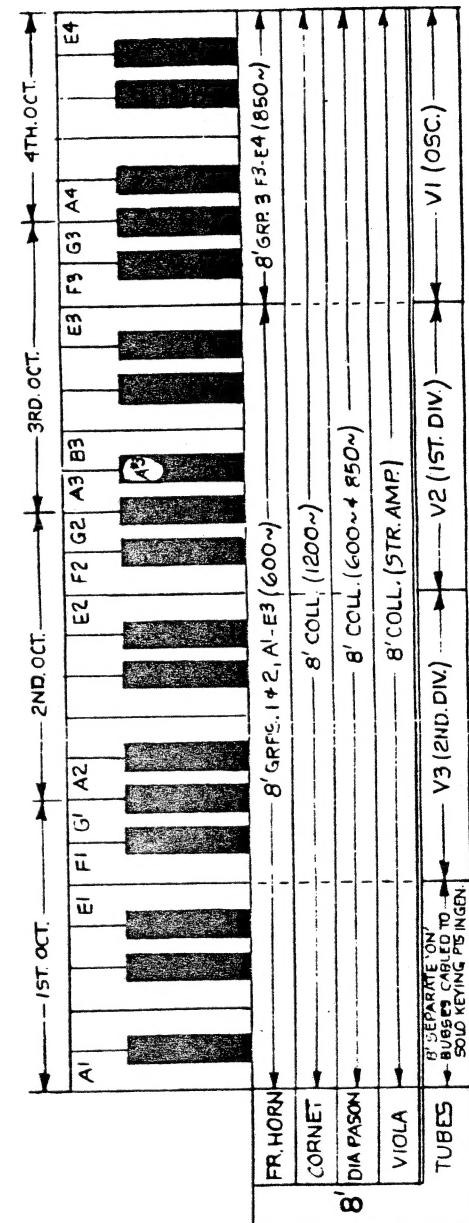
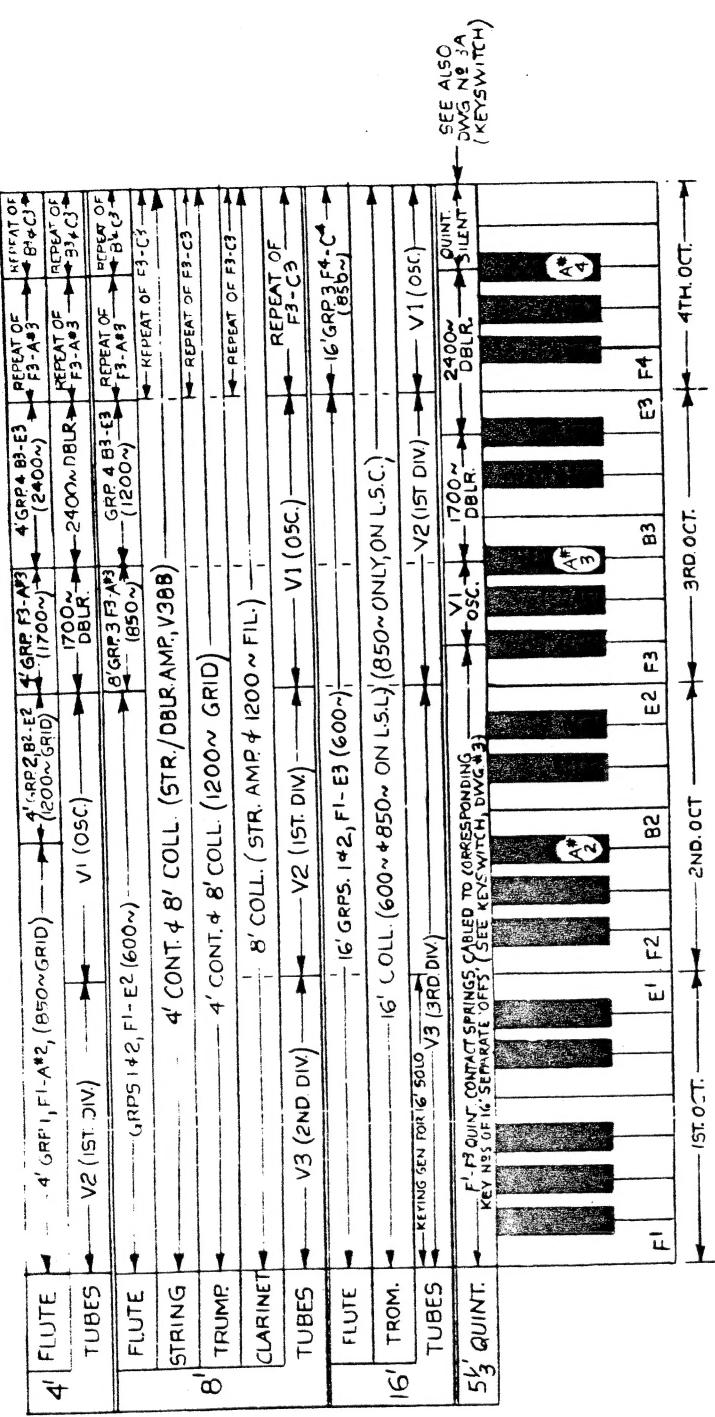
4400 W. 45th St.

Chicago, Illinois 60632

993-016372



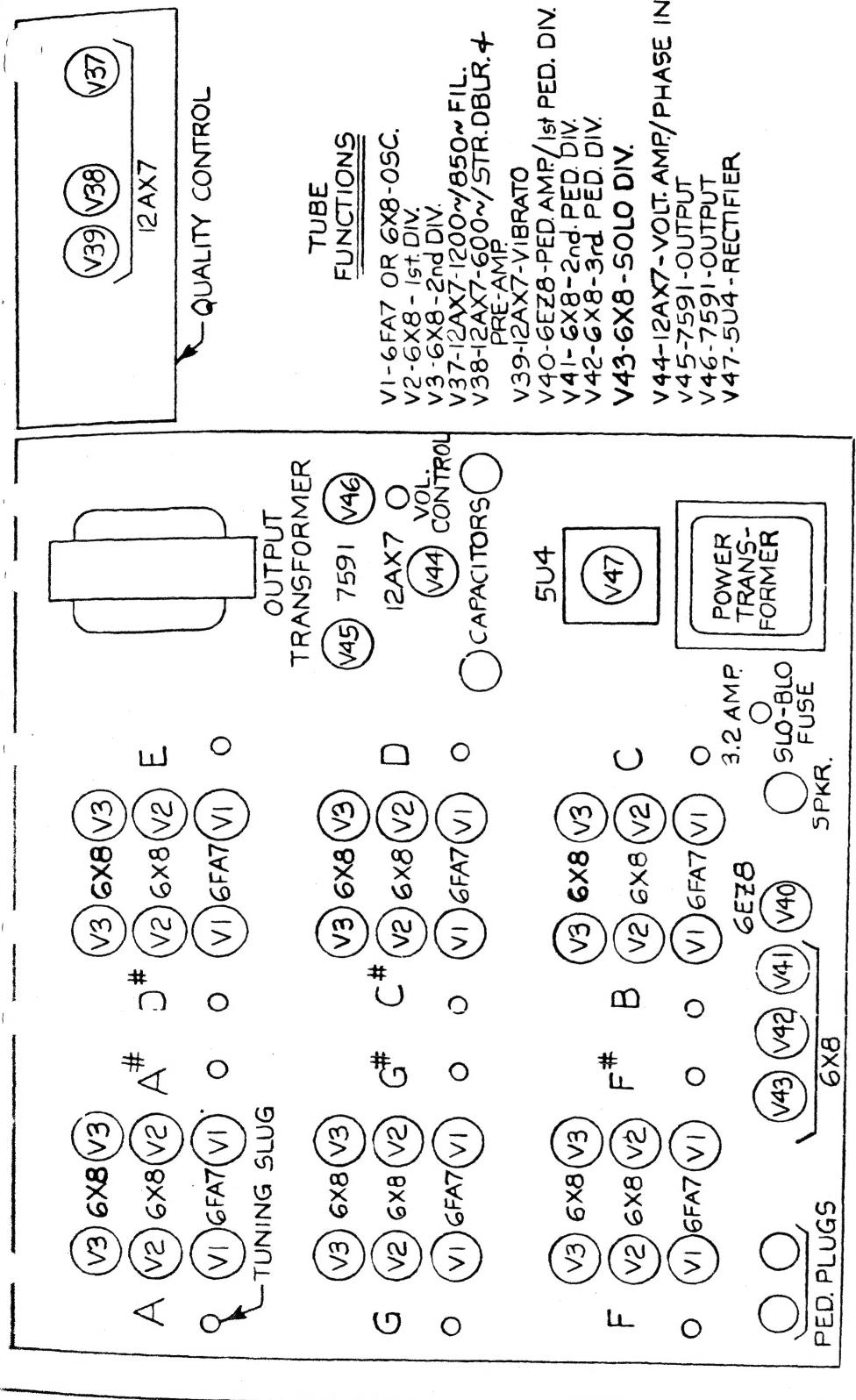
UPPER MANUAL



LOWER MANUAL

LOWREY ORGAN CO.
TTONAL FLOW & TUBE LOCATION CHART
MODEL L.S.C. 1
Dwg. No. A

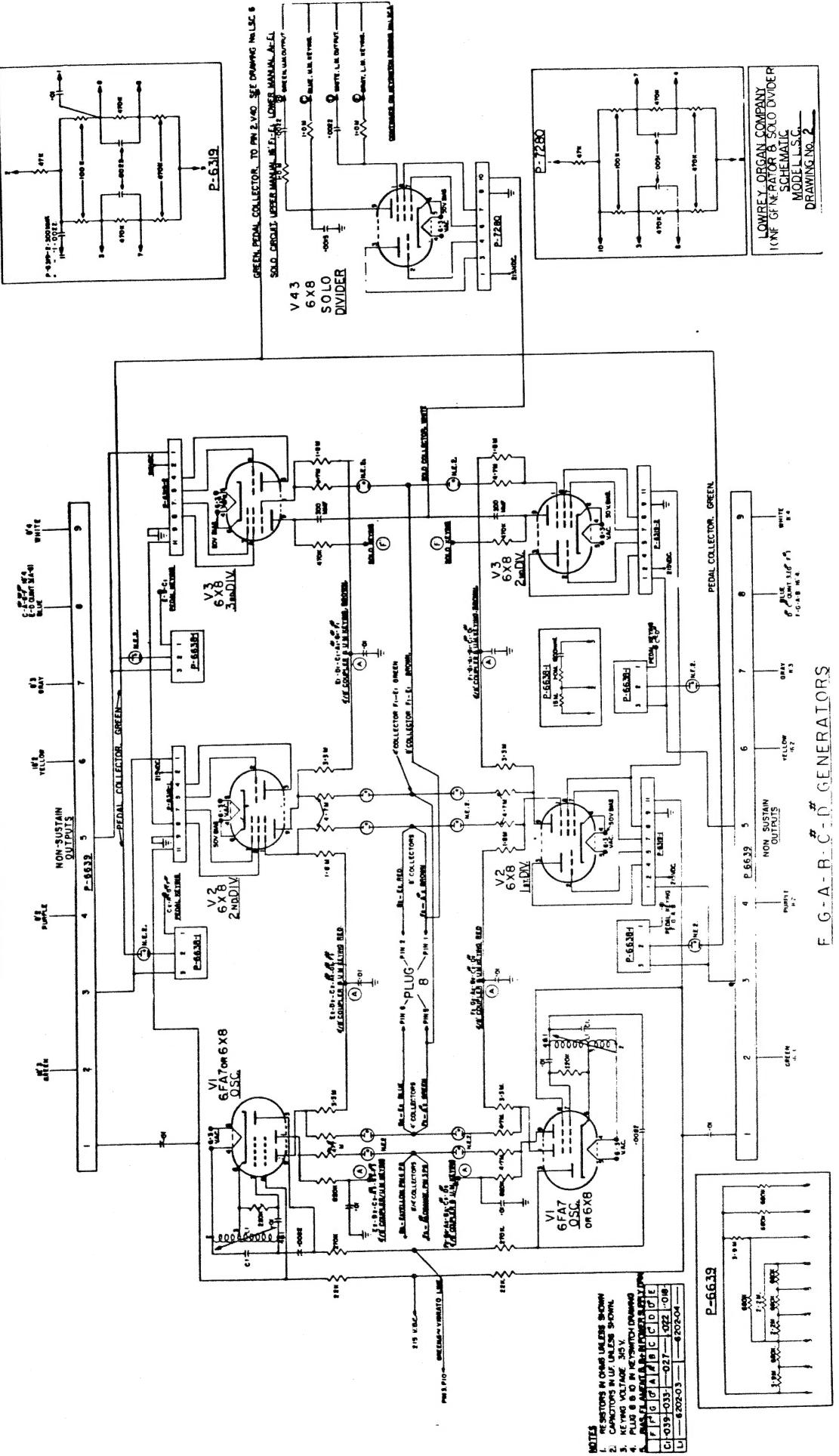
NOTE.
DEFINITIONS OF GROUPS. COLLECTORS ARE,
A GROUP - WIRE FOR COLLECTING A GROUP
OF NOTES.
B) COLLECTOR - ALL GROUPS, TIED TOGETHER.
C) A COMMUNAL COLLECTOR - A GROUP
AFFILIATED TO AN ESTATE.



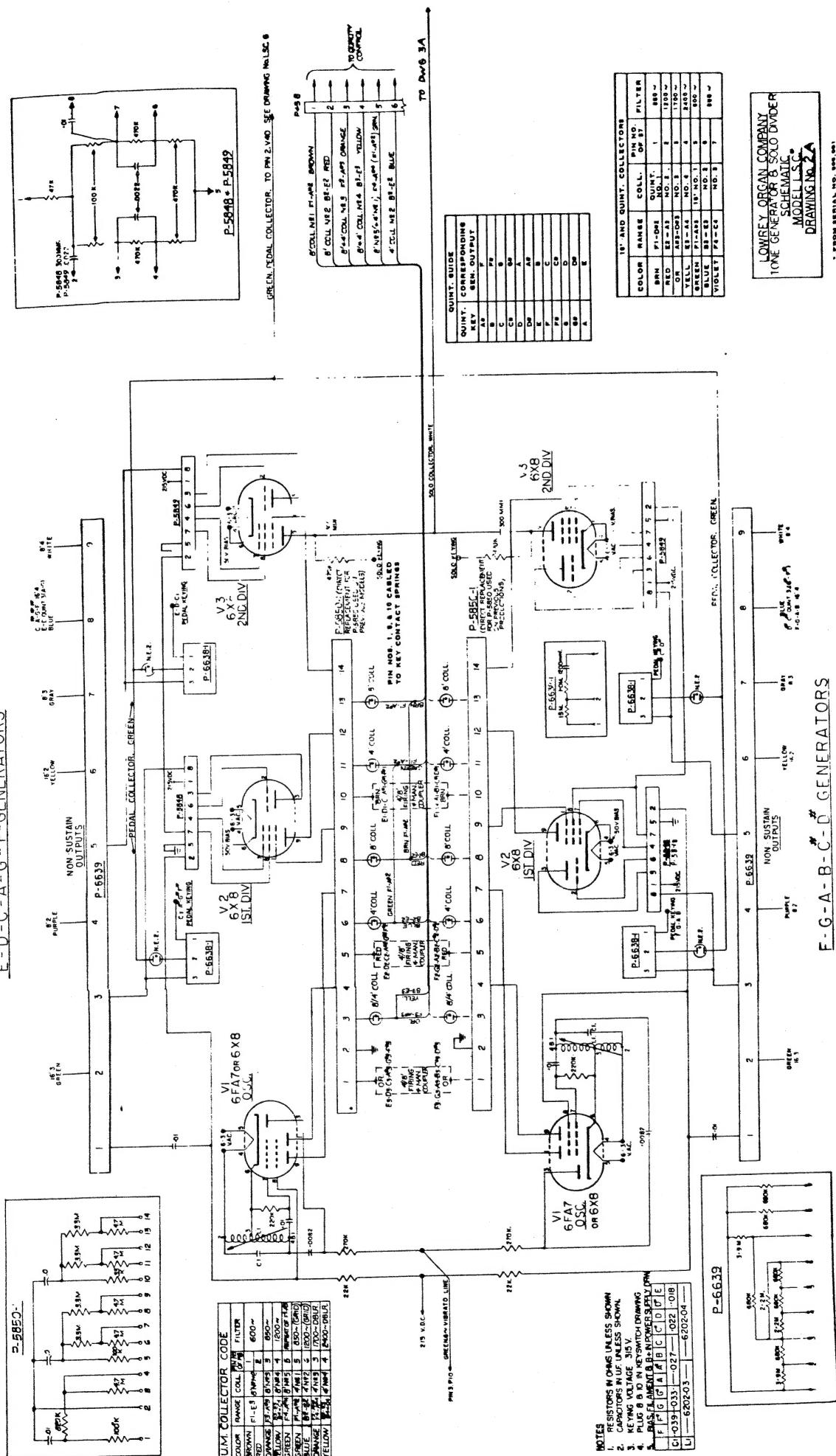
REAR VIEW

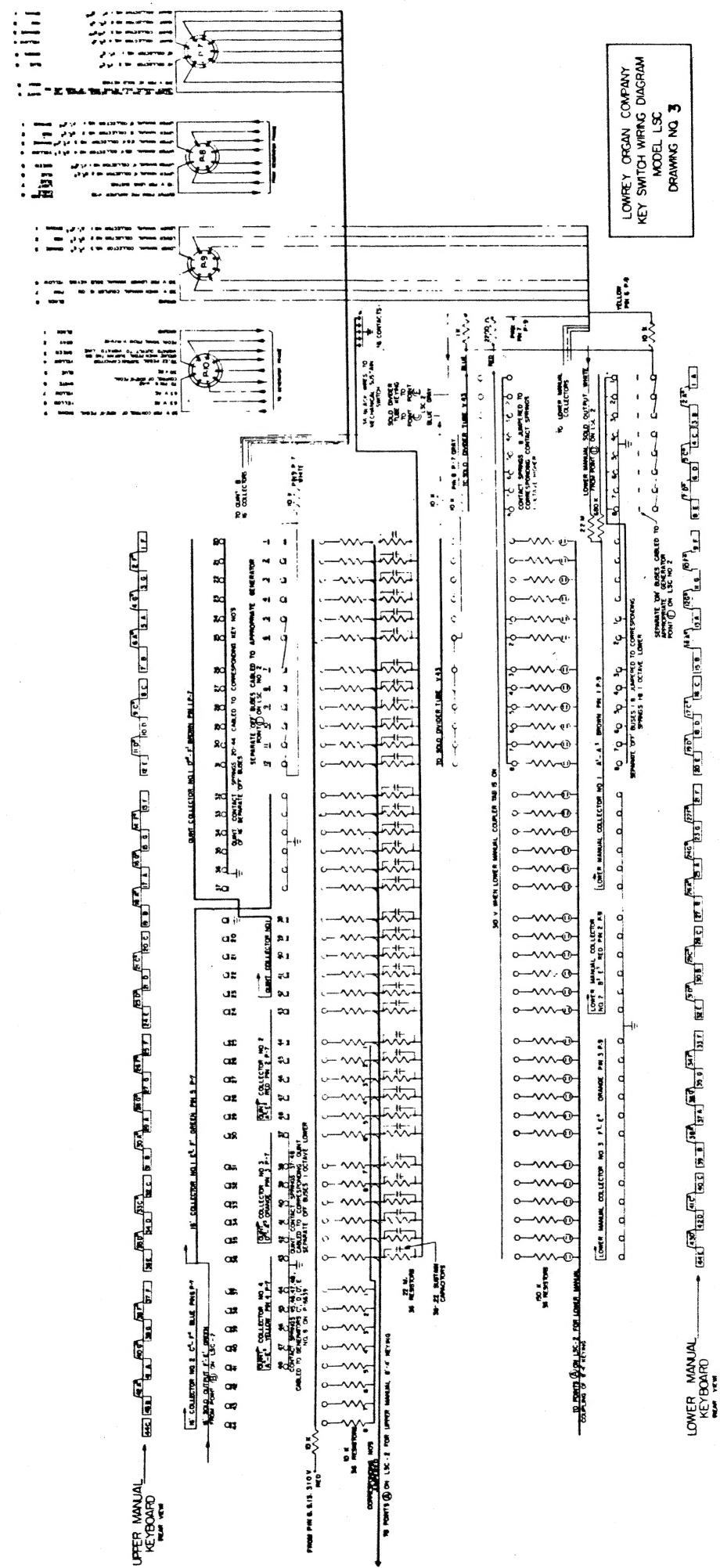
LOWREY ORGAN CO.
TONAL FLOW & TUBE LOCATION CHART
MODEL L.S.C.-1
DWG. № 1 B

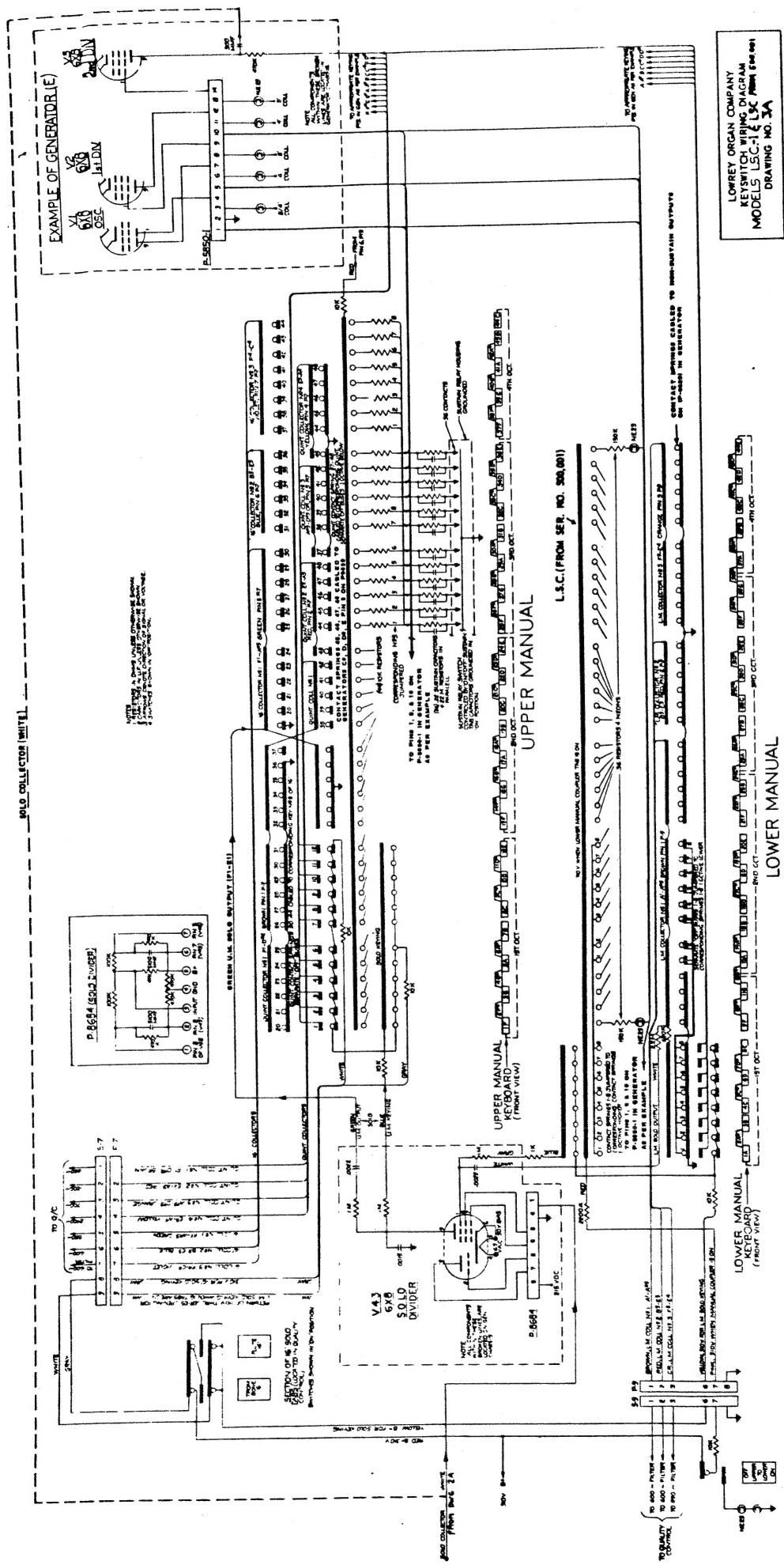
E - D - C - A - G - F - GENERATORS

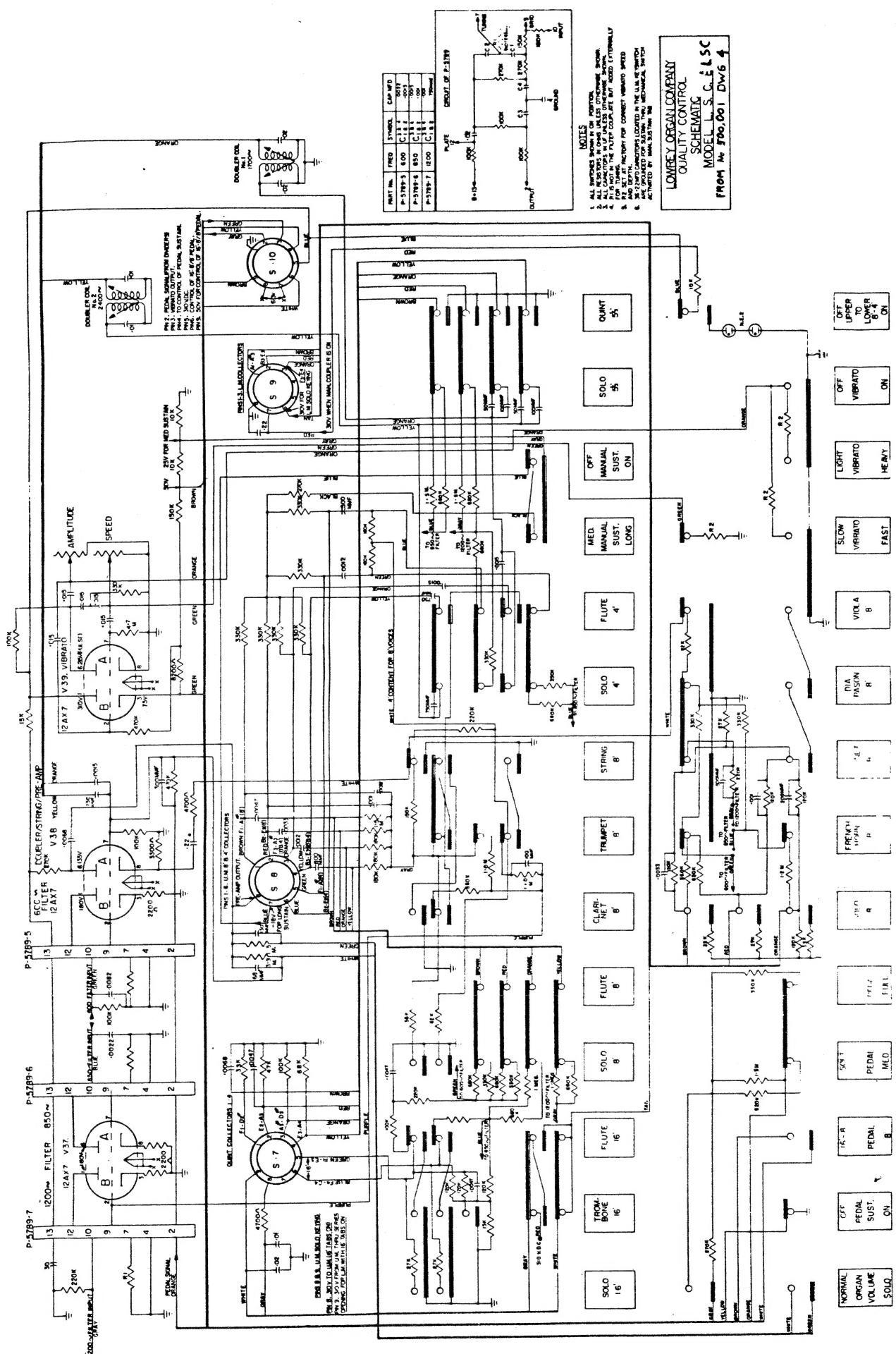


E - D - C - A - G - F - GENERATORS



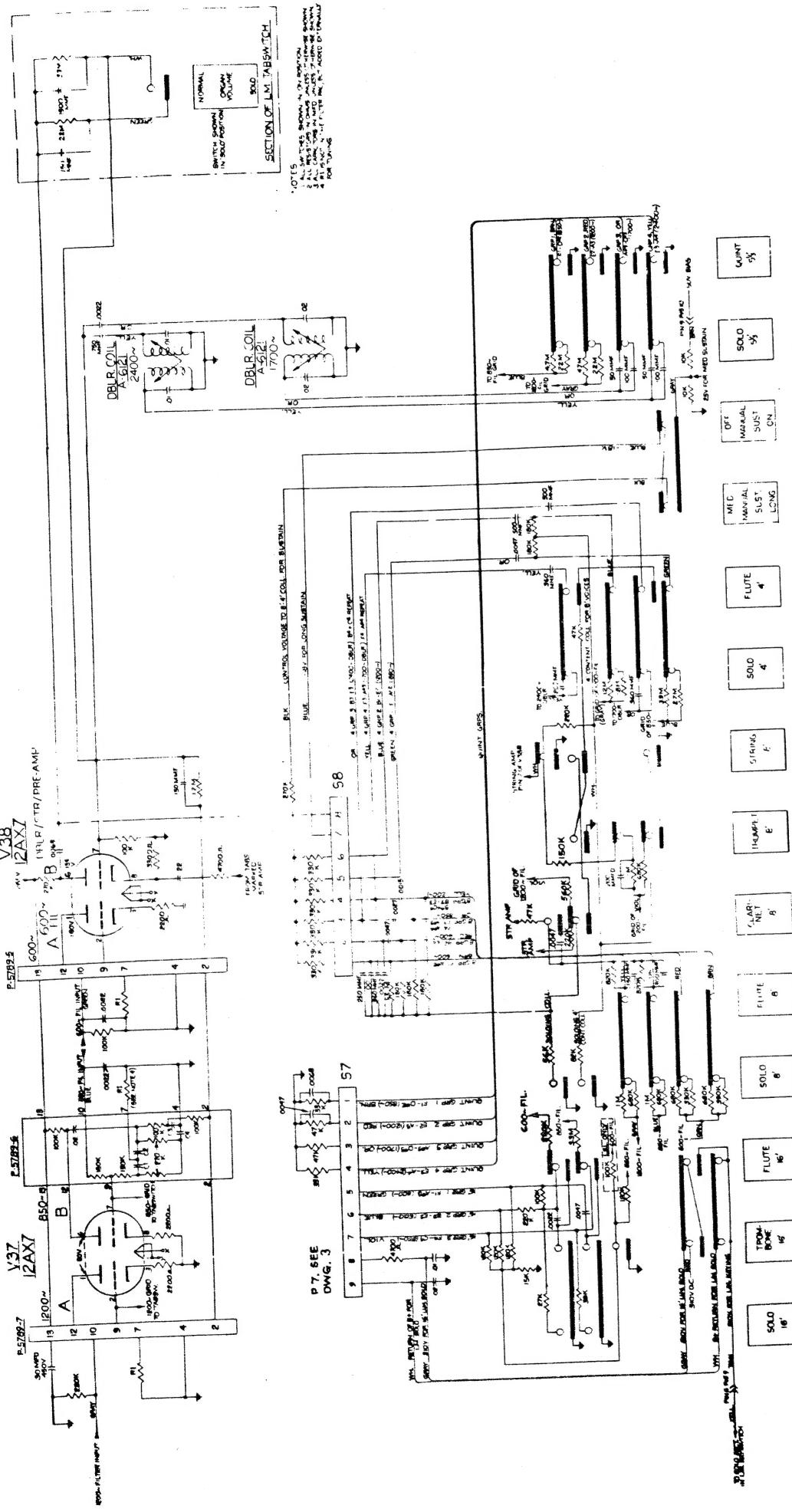






UPPER MANUAL TABSWITCH

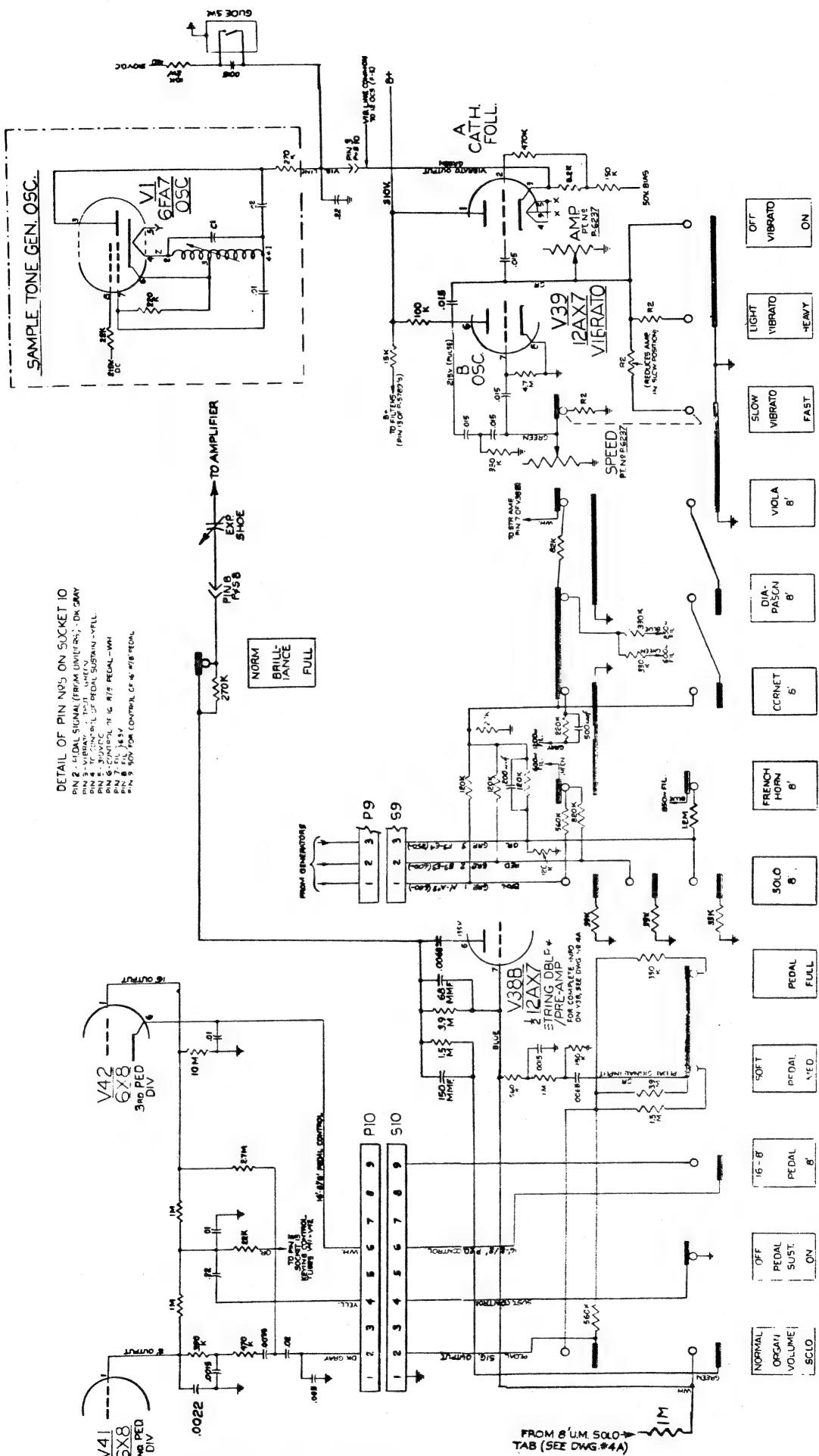
LOWREY ORGAN CO
QUALITY CONTROL SCHEMATIC
UPPER MANUAL
MODEL LSC-1
DWG. N° 4A

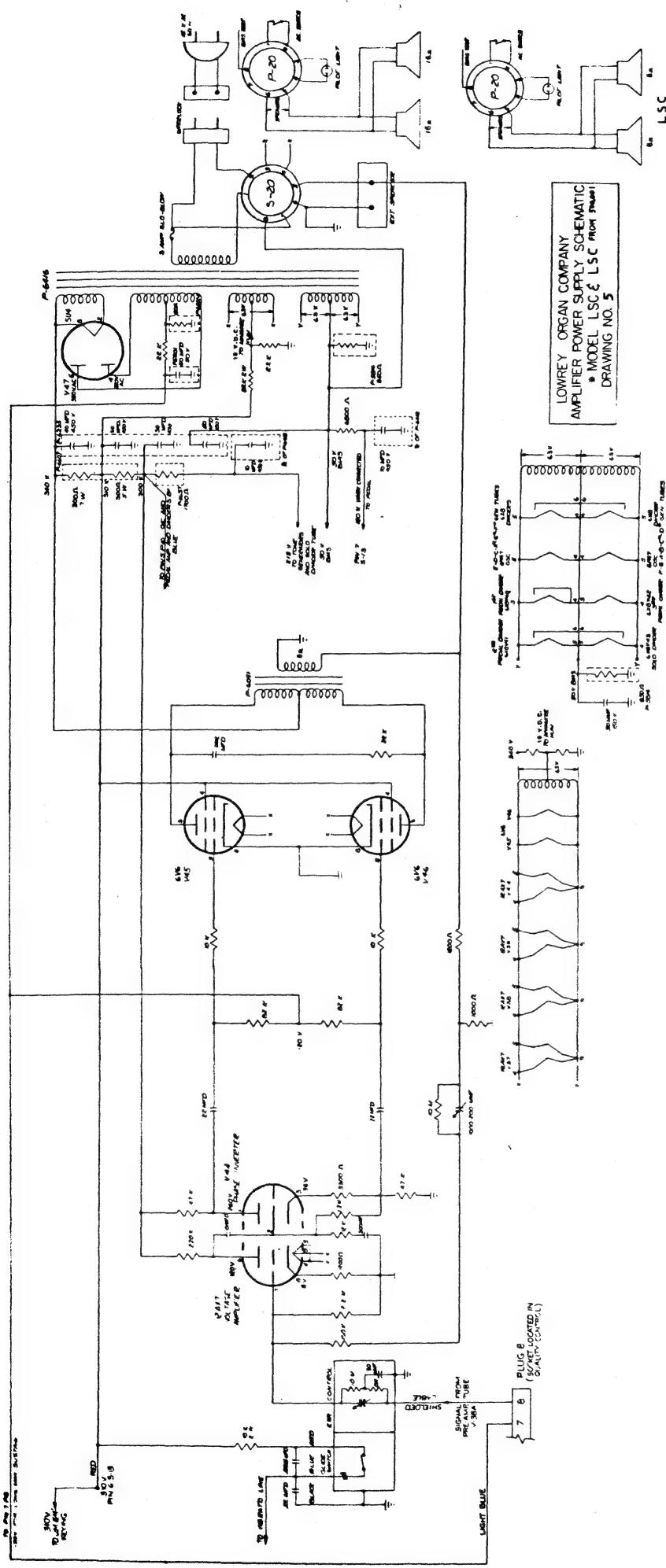


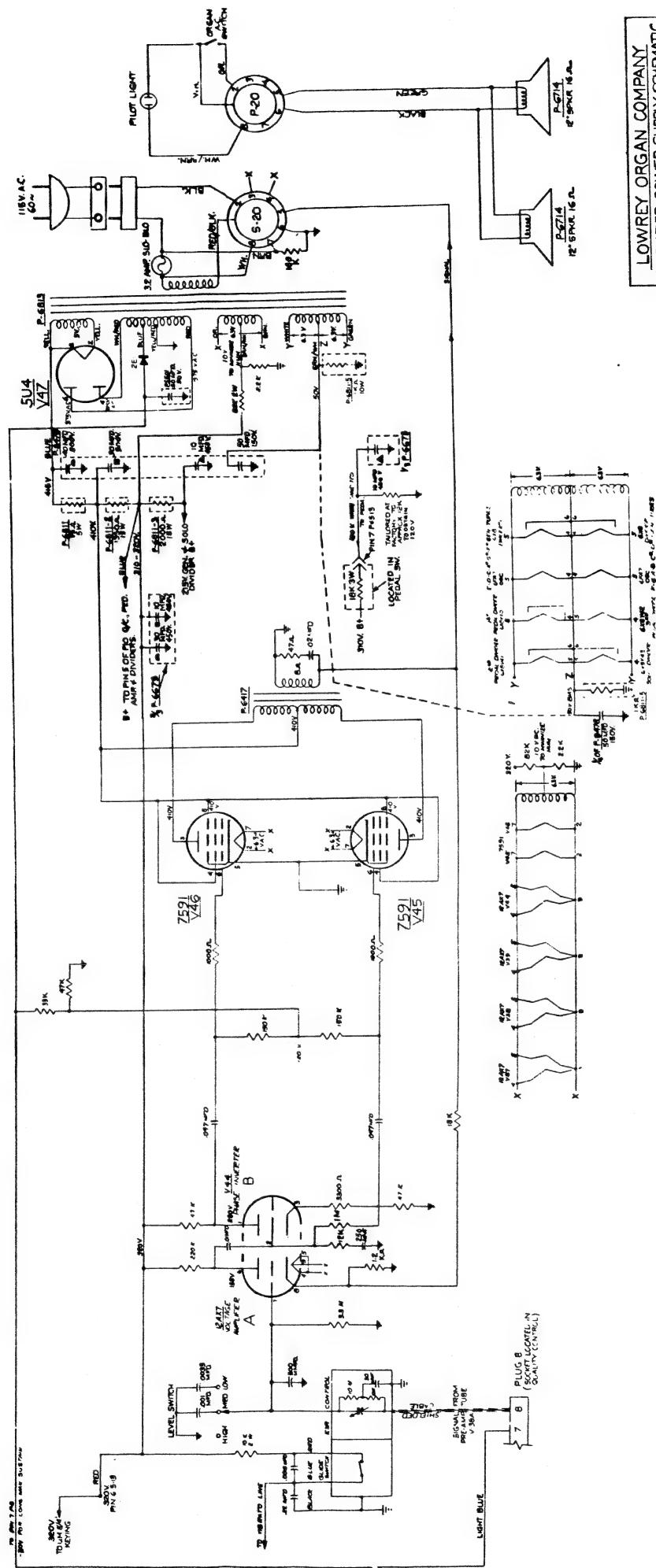
LOWER MANUAL TABSWITCH

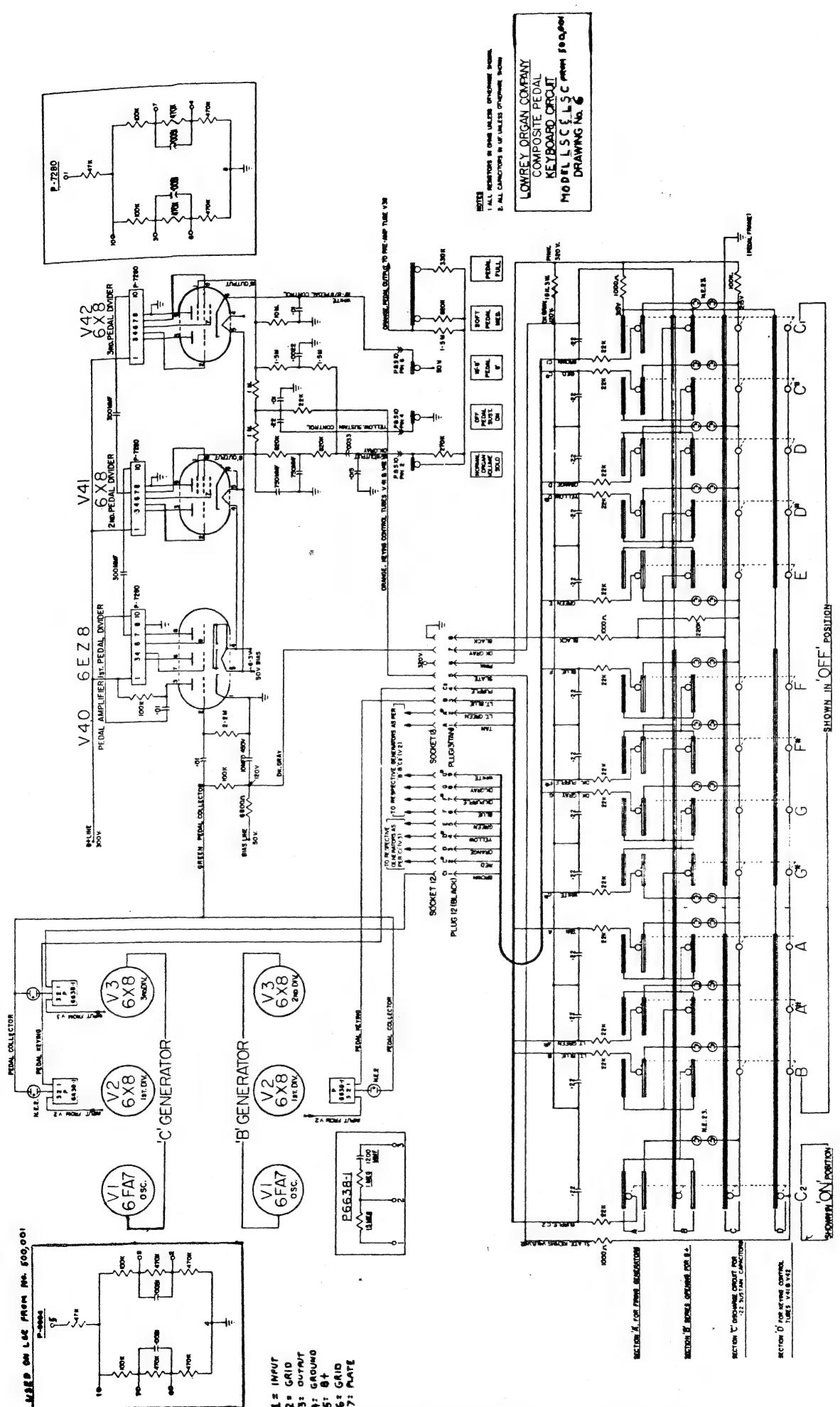
LOWREY ORGAN CO.
QUALITY CONTROL SCHEMATIC
PEDAL, LM. VIBRATOR & COUPLE PLEHR CIRCUITS
MODEL LSC-1
DWG. NO. 4B

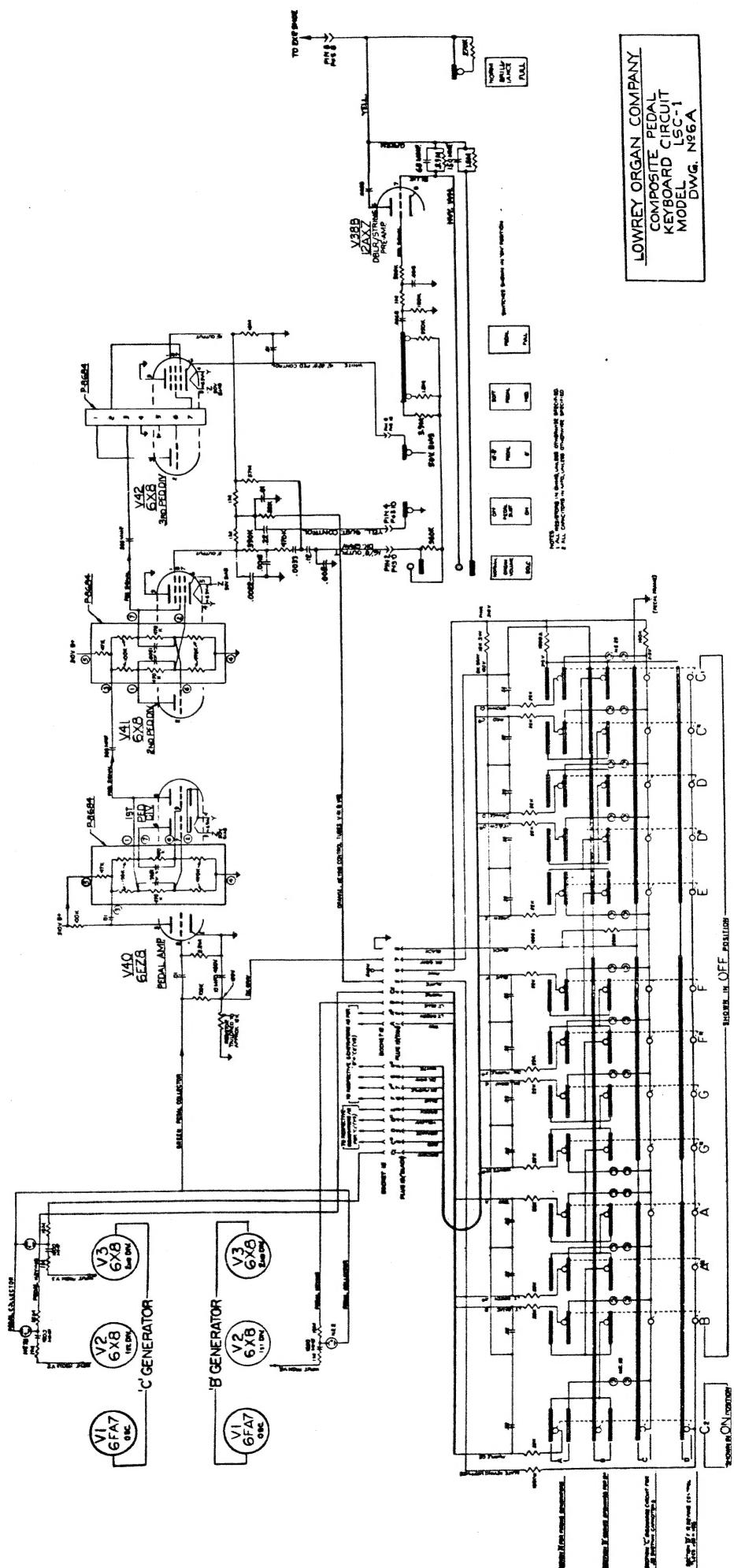
NOTES
1 ALL SWIVELES SHOWN IN TOP POSITION.
2 ALL HINGES SHOWN IN LINE, UNLESS OTHERWISE SHOWN.
3 ALL ARMCHAIRS, CHAIRS, ETC., SHOWN IN LINE, UNLESS OTHERWISE SHOWN.
4 BE SURE TO FACTORY FOR CORRECT VIBRATOR SET-UP & DEPTH.











The sustaining feature on the pedals requires a special circuit to prevent more than one tone at a time from entering the collector. To understand this it is necessary to consider playing any two pedals in sequence.

On depressing the first pedal, its switch spring contacts the top "on" buss bar which carries the B+ firing voltage. This fires the corresponding neon lamp and also charges the .22 mfd capacitor associated with it. As the spring continues through its "on cycle", it shorts together the B+ "on" buss bar and the "on" buss below it, activating the relay coil through a voltage divider network on the pedal switch mechanism. Upon release of the pedal, the keying voltage to the neon lamp is removed and the relay coil is no longer energized. The spring returns to its off buss bar, but the charged .22 mfd capacitor keeps the neon keyed and signal continues to the collector.

The next pedal is then depressed, repeating the firing cycle and relay activation. The off buss bar of the previously played pedal switch is connected to a contact in the bottom deck of the relay. The relay activation caused by the second pedal switch grounds this off buss bar, immediately discharging its .22 mfd capacitor. The neon lamp is no longer fired and the drive signal no longer remains on the collector.

All 13 pedal switches have an off buss, each of which is connected to a contact in the bottom deck of the relay. In addition, one contact in the relay is a ground so that the activation of the relay by any pedal switch places a ground on all of the off buss bars, insuring that any previously charged .22 mfd capacitor is immediately discharged.

A single .22 mfd capacitor in the suppressor grid circuits of V 43 and V 44 controls pedal sustain. When charged, it continues keying voltage to these grids after release of any pedal. The pedal sustain tab switch controls this capacitor. In sustain "off" position, the switch disconnects the normally grounded side of the capacitor. Since it does not receive a charge, it cannot key V 43 and V 44 after release of a pedal. With the sustain tab "on", this switch provides the necessary ground to this capacitor so that it will take a charge and thus permit keying voltage to remain on V 43 and V 44 after release of the pedal.

Another part of the pedal circuit is the 16'-8' control tab. In the 16'-8' position, the outputs of V 43 and V 44 are combined. In the 8' position, the switch removes the cathode of V 44 from the bias line and this 16' divider no longer functions, leaving only an 8' tone.

PEDAL KEYBOARD CIRCUIT - LSC

Although LSC differs from ISB in several major areas, nevertheless, the same general circuit principles are employed. It is therefore recommended that the foregoing ISB Pedal Circuit description be carefully read and understood.

LSC variations: 1. A single tube, type 6EZ8 (triple triode) is used for both amplifier and 1st divider.

2. In tone generators, a printed circuit couplet (P-6638-1) contains the keying and drive signal output components.

3. The pedal switch mechanism provides four sets of contacts for each pedal, eliminating need for the relay. A series opening keying circuit permits only one tone at a time to play, even though more than one pedal is depressed.

The schematic is drawn to correspond to the physical layout of the assembly, as viewed from the rear of the organ. For any pedal, the top switch section (A) keys the proper tone generator, to provide the drive signal. The next to the t switch section (B) is the series opening circuit that eliminates B+ to the (A) switch of any note above one being played. The on buss of the (B) switch provides a discharge path for the sustain capacitor of a higher pedal, should one lower be played at the same time.

The (C) switch section provides the normal discharge path for a sustain capacitor when another pedal is played. Note the two series NE-23 neon lamps on all (A) section "off" buss bars. These return to a common point, the springs of (C) sections, which are all wired together. When any pedal is played, its .22 mfd sustain capacitor is charged and the generator neon lamp is keyed to provide a drive signal for this pedal. Upon release of the pedal, the charged capacitor keeps the neon on, to provide a sustained drive signal. The discharge path will be through the off buss bar circuit of the (A) switch. As another pedal is keyed, its (C) spring, contacting the grounded "on" buss, discharges, through the two NE-23 neons, the sustain capacitor of the previously played pedal.

The (D) switch section of any pedal keys the signal "read out" elements (suppressor grids) of the second and third pedal divider circuits (V 41 and V 42).

VIBRATO AND GLIDE CIRCUIT

The vibrato oscillator (V 40B in LSB, V 39B in LSC) provides an approximate 6 cycle pulse which produces the desired vibrato rate. The output of this oscillator is coupled to a cathode follower stage (V 41 in LSB, V 39A in LSC). The output of this cathode follower is applied to diodes (6X8 triode section is diode connected), or 6FA7, which is a diode - tubes are interchangeable in V 1) of all 12 of the V 1 tubes of the tone generator chassis. A .0082 mfd capacitor is connected between the diode plate and oscillator tank circuit of each of the 12 Master oscillators. The cathode is common to both the diode and the Master oscillator, and, therefore this capacitor is effectively shunted across the tank circuit, through the tube. On positive half cycles the diode conducts and the shunted capacitor affects the frequency of the oscillator. On negative half cycles, the diode does not conduct, effectively disconnecting the capacitor. Thus, this capacitor is taken in and out of the tank circuit at the rate produced by the vibrato oscillator.

The vibrato is controlled by three tabs. With vibrato off, the "off-on" tab switch grounds out the output of the vibrato oscillator. In the "fast" position a resistor on the tab board is added to the vibrato oscillator feed back loop, increasing the speed. In the "light" position, a resistor is added between the oscillator output and ground, decreasing the intensity. A third resistor is added to reduce intensity when in the "Slow-Heavy" vibrato position.

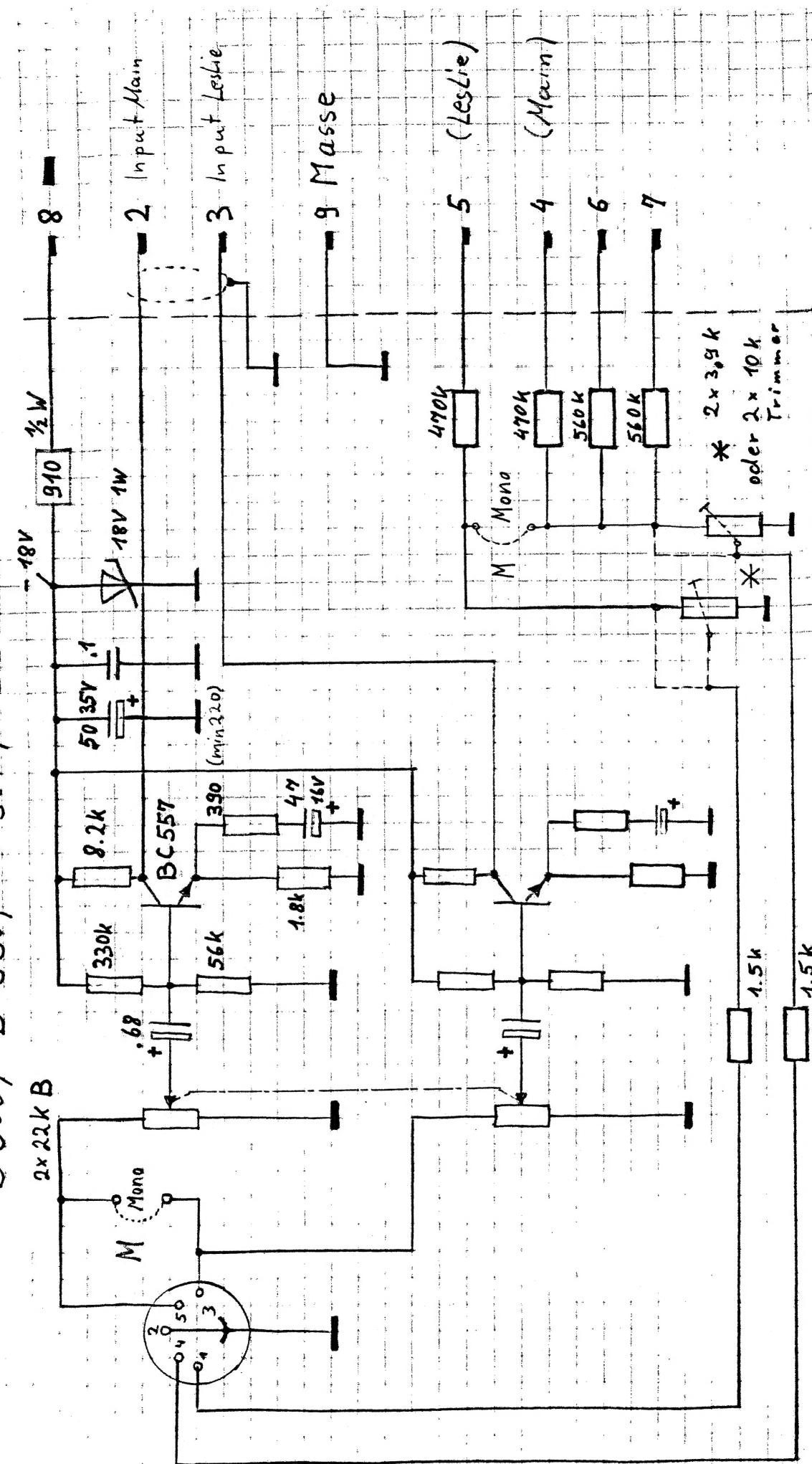
The vibrato oscillator speed and depth are controlled by two screwdriver slot type potentiometers. These are located on the underside of the quality control chassis. If a slight change in speed or depth is desired, first pencil mark position of slots on chassis (so that vibrato can be returned to near original speed and depth if necessary) then adjust to desired degrees.

The glide switch (controlled by the lever on the left side of the swell pedal), when activated, puts B+ into the vibrato cathode follower circuit, eliminating the vibrato pulse, and provides sufficient DC to cause the V 1 diodes to conduct more heavily. This increases the effectiveness of the .0082 mfd capacitor in each of the master oscillators, lowering the pitch.

Tonbandanschluss (Mono oder Stereo) für Lowrey - Orgeln

TG-88 (-1); TG-98 (-1); M-300; M-500; TG0 (-1); TG5; D-300;

D-500; D-550; C-300; C-500



Die Monobrücken werden bei DIN-Anschlüssen nicht benötigt.

Bei zu geringer Verstärkung können die Gegenkopplungswiderstände (390) bis auf 220Ω erniedrigt werden.